TRAUMATIC RUPTURE OF THE SMALL INTESTINE; ABDOMINAL SECTION; RECOVERY.

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JOHN ZOVISH, Polander, aged eighteen years, mill laborer, of fair muscular development and of previous good health, was admitted to Mercy Hospital on June 14, 1900, at seven o'clock in the morning, with what had been considered a trifling injury. He was seen by the writer at ten o'clock, and, through an interpreter, stated that at five o'clock the same morning he had received a blow in the abdomen from the handle of a pair of long tongs, with which he had been carrying a billet of iron. He was unable to say just where he had been struck, but pointed in a general way to the neighborhood of the umbilicus. No ecchymosis or sign of contusion was present, nor was there any special area of tenderness to locate the point of impact. His general condition was good and gave no indication of serious injury. His pulse was of good volume, regular, and counted eighty-eight per minute. His temperature was 98° F. He had passed urine in normal amount and without indication of the presence of blood. He had had very little pain, and this was controlled by the application of an ice-bag; no morphine was required. He stated that shortly after he had been struck he had vomited. He also vomited some fluid of a bilious character on a single occasion after his admission to the hospital.

There was no abdominal distention, nor was there any excessive rigidity of the abdominal muscles; at the same time the abdomen had not its normal soft condition. Tenderness was present to a slight extent, chiefly in an area of a few inches about the umbilicus; but this tenderness was not to be compared to that which is present in local peritonitis, say, from appendicitis. It

certainly was not more than is usually present in contusions of the abdominal wall. But here there was no evidence of contusion. *Peristalsis was almost absent.* And on this symptom, taken with the slight rigidity, the moderate pain, and the fact that he had vomited twice, an abdominal section was decided on.

An hour later, under ether anæsthesia, a median incision was made below the umbilicus. There was no evidence of injury to the abdominal wall. As soon as the peritoneal cavity was opened, the serious nature of the accident was confirmed by an outflow of seropurulent fluid, and the thickened and congested condition of the presenting bowel. The incision was rapidly enlarged, and the inflamed intestine was delivered and examined. A rupture of the small intestine was found at the free border, about the diameter of a lead-pencil, with eversion of the mucous membrane and fæcal matter exuding in small amount. This rupture was at once closed by a single continuous suture of fine chromicized catgut. The mucous and submucous coats were first tightly closed with a single line of glover's suture; the muscular coat was next united by a continuation of the same suture in the reverse direction; and, finally, the thread was again reversed, and the same over-and-over stitch used to invert the peritoneum.

A systematic examination of the entire small intestine from the duodenum to the ileocæcal valve was made, during which about a pint of seropus was evacuated. Flakes of inflammatory lymph in large numbers were adherent to the bowel. The rupture was approximately at the junction of the jejunum and ileum. The descending colon was examined, but the ascending and transverse portions could not be delivered for examination. Several gallons of warm surgical salt solution were used to cleanse the bowels and abdominal cavity. The peritonitis was not general, but involved about one-third of the small intestine, and there was no effort at localization. After the intestines had been returned and the cavity dried with pads, a long glass drain was passed to the floor of the pelvis and the incision closed with perforating sutures of silkworm-gut.

The head of the patient's bed was elevated ten inches, according to the suggestion of Dr. George R. Fowler (*Medical Record*, 1900, Vol. lvii, 617), and kept so for four days. The drain was emptied every half-hour during the first night, and at longer intervals afterwards. The tube had almost ceased to drain in two

days, and was then removed. The only unfavorable symptom which the patient exhibited during his convalescence was vomiting, which occurred several times on the second day. Good peristalsis returned within twenty-four hours.

The points of interest in this case are (*a*) the extensive peritonitis and free exudate present within six hours of the injury; (*b*) the rupture of intestine without trace of external injury, and from what would appear to have been a slight blow; (*c*) the almost entire absence of symptoms apart from cessation of peristalsis and slight vomiting, and (*d*) the apparently favorable effect of Fowler's posture in the after treatment. This case is not remarkable in any particular, but is reported to emphasize the importance of early diagnosis and prompt operation in suspected concealed abdominal injuries, and the apparently good effect of Fowler's postural treatment after operation.